

SEQUENCE LISTING

<110> Imperial College Innovations Ltd

<120> Engineering Redox Proteins

<130> Q88296

<140>

<141>

<160> 11

<170> PatentIn Ver. 2.1

<210> 1

<211> 84

<212> DNA

<213> Escherichia coli

<220>

<221> CDS

<222> (1)...(84)

<223> Helix 1 of E.coli repressor of primer (rop)

<400> 1

acc aaa caa gaa aaa acc gcc ctt aac atg gcc cgc ttt atc aga agc 48
Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile Arg Ser
1 5 10 15

cag aca tta acg ctt ctg gag aaa ctc aac gag ctg 84
Gln Thr Leu Thr Leu Glu Lys Leu Asn Glu Leu
20 25

<210> 2

<211> 28

<212> PRT

<213> Escherichia coli

<400> 2

Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile Arg Ser
1 5 10 15

Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu
20 25

<210> 3

<211> 84

<212> DNA

<213> Escherichia coli

<220>

<221> CDS

<222> (1)..(84)

<223> Helix 2 of rop

<400> 3

gat gaa cag gca gac atc tgt gaa tcg ctt cac gac cac gct gat gag 48
Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu
1 5 10 15

ctt tac cgc agc tgc ctt gcc cgt ttc ggc gac gac 84
Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp
20 25

<210> 4

<211> 28

<212> PRT

<213> Escherichia coli

<400> 4

Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu 48
1 5 10 15

Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp
20 25

<210> 5

<211> 192

<212> DNA

<213> Escherichia coli

<220>

<221> CDS

<222> (1)..(192)

<223> wild type dimeric rop

<400> 5

atg ggt acc aaa caa gaa aaa acc gcc ctt aac atg gcc cgc ttt atc 48
Met Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile
1 5 10 15

aga agc cag aca tta acg ctt ctg gag aaa ctc aac gag ctg gac gcg 96
Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Asp Ala
20 25 30

gat gaa cag gca gac atc tgt gaa tcg ctt cac gac cac gct gat gag 144
Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu
35 40 45

ctt tac cgc agc tgc ctt gcc cgt ttc ggc gac gac ggt gaa aac ctg 192
Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp Gly Glu Asn Leu
50 55 60

<210> 6

<211> 64
<212> PRT
<213> Escherichia coli

<400> 6
Met Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile
1 5 10 15
Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Asp Ala
20 25 30
Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu
35 40 45
Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp Gly Glu Asn Leu
50 55 60

<210> 7
<211> 384
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Monomeric rop
containing all 4 helices in one continuous
sequence

<220>
<221> CDS
<222> (1)..(384)
<223> Monomeric rop consisting of helices 1-1'-2'-2 and
helices 1 and 1', and 2' and 2 are connected by
GGGGG loops

<400> 7
atg ggt acc aaa caa gaa aaa acc gcc ctt aac atg gcc cgc ttt atc 48
Met Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile
1 5 10 15
aga agc cag aca tta acg ctt ctg gag aaa ctc aac gag ctg ggt ggc 96
Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Gly Gly
20 25 30
ggt ggc ggt acc aaa caa gag aag acc gcc ctt aac atg gcc cgc ttt 144
Gly Gly Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe
35 40 45
atc aga tct cag aca tta acg ctt cta gag aag ctt aac gag ctc ggg 192
Ile Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Gly
50 55 60
gcg gat gaa cag gca gac ata tgt gaa tcg ctt cac gac cac gct gat 240
Ala Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp
65 70 75 80

gag ctt tac cgc agc tgc ctt gcc cgt ttc ggt ggc ggt ggc ggt gcg	288	
Glu Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Gly Gly Gly Ala		
85	90	95
gat gaa cag gca gac atc tgt gaa tcg ctt cac gac cac gct gat gag	336	
Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu		
100	105	110
ctt tac cgc agc tgc ctt gcc cgt ttc ggc gac gac ggt gaa aac ctg	384	
Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp Gly Glu Asn Leu		
115	120	125

<210> 8
 <211> 128
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Monomeric rop
 containing all 4 helices in one continuous
 sequence

<400> 8			
Met Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile			
1	5	10	15
Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Gly			
20	25	30	
Gly Gly Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe			
35	40	45	
Ile Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Gly			
50	55	60	
Ala Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp			
65	70	75	80
Glu Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Gly Gly Gly Ala			
85	90	95	
Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu His Asp His Ala Asp Glu			
100	105	110	
Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp Gly Glu Asn Leu			
115	120	125	

<210> 9
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: psp7 upstream
amplification sequence

<400> 9

gcgaaattaa tacgactca

19

<210> 10

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: asp4
downstream amplification sequence

<400> 10

gttggctgct gccaccgctg agc

23

<210> 11

<211> 128

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: RDM14.5

<400> 11

Met Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe Ile
1 5 10 15

Arg Ser Gln Thr Leu Thr Leu Leu Glu Lys Leu Asn Glu Leu Gly Gly
20 25 30

Gly Gly Gly Thr Lys Gln Glu Lys Thr Ala Leu Asn Met Ala Arg Phe
35 40 45

Ile Arg Ser Gln Thr Leu Thr His Leu Glu Lys Leu Asn Glu Leu Gly
50 55 60

Ala Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu Ala Asp Trp Ala Asp
65 70 75 80

Glu Leu Tyr Arg Ser Cys Leu Ala Arg Phe Gly Gly Gly Gly Ala
85 90 95

Asp Glu Gln Ala Asp Ile Cys Glu Ser Leu Ala Asp Trp Ala Asp Glu
100 105 110

His Tyr Arg Ser Cys Leu Ala Arg Phe Gly Asp Asp Gly Glu Asn Leu
115 120 125